

## **ENERGY BRIEF - THE NETHERLANDS**

Bram Groen

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1. Summary : U.S. suppliers of electrical power generation and transmission equipment are not hampered by tariff or non-tariff barriers in competing for Dutch power sector contracts. Still, the share of U.S. manufacturers of power-related equipment on the Dutch market remains relatively small. Except perhaps for one manufacturer of gas turbines, there is virtually no U.S. presence. This is not the result of a noncompetitive environment, but can be attributed chiefly to Dutch power sector preference to expand power generating capacity through turn-key projects instead of company-managed projects. The absence of local representatives to manage turnkey projects prevents U.S. manufacturers from effectively entering the Dutch market for power generating equipment. Finding local partners is, therefore, apparently the key prerequisite to successful penetration of the Dutch energy market.

In the Dutch oil and gas sector, 13 oil and gas exploration and production companies and some 300 suppliers of equipment are active. Total sales of the suppliers amounted to USD\$4 billion in 2000. Dutch suppliers to the oil and gas industry hold 70 percent of the total market. There are also 10 international engineering firms that are active within these industries, five of which are capable of designing and building complete exploration and production offshore rigs. While U.S. suppliers of equipment and production for the oil and gas industry enjoy a good reputation, their market share remains limited. Again, local agents and distributors provide the best route for U.S. companies trying to capture a bigger share of this market.

In the renewable energy sector, U.S. manufacturers of solar and wind energy equipment face significant competition from Dutch and other European suppliers.

The Dutch government strongly encourages domestic industries to put more research in renewable energy. The more renewable energy that is used in the Netherlands, the more important it will become to the Dutch economy. Sales of renewable energy products and services to foreign markets are also important for domestic firms because their growth in sales volume will lead to further reductions in costs, which, in turn, will benefit the penetration of renewable energy on the Dutch home market.

Through the establishment of partnerships with domestic suppliers, U.S. firms can effectively meet domestic competition and penetrate the Dutch market for renewable energy equipment. American suppliers of advanced solar energy systems, especially photovoltaic and biomass systems, have comparable prospects in this market.

## 2. The Dutch Electricity Market

In response to the European Union Electricity Directive, the new Dutch Electricity Act took effect on August 1, 1998. The Electricity Act sets out a series of ambitious goals for the Dutch energy sector in terms of increasing competition, reducing pollution and stimulating the use of renewable energy sources. The main objective is to deregulate the Dutch energy sector through a step-by-step transition towards complete customer choice. The first class of customers, those taking more than 10 GWh annually, have been free to choose their suppliers from the date of implementation of the new Electricity Act. Their level of demand is equivalent to 2MW for 5,000 hours annually. This class comprises the 250 largest (primarily industrial) users in the Netherlands. 650 large customers also have the possibility to choose their supplier of electricity. Since January 1, 2002, the intermediate band of power consumers (an estimated 56,000) has also gained freedom of supplier choice. Domestic and small consumers (an estimated 6.7 million) will have to wait until the year 2004, when the Dutch electricity market is expected to be fully liberalized. However, effective July 1, 2001, private consumers may already choose their supplier of "green" electricity. This puts the Dutch well ahead of what is required under the EU directive for liberalization of the electricity market.

In addition, the Electricity Act will attempt to increase energy efficiency by 33 percent, reduce the use of fossil fuels to 10 percent and stabilize carbon dioxide emissions by the year 2020. To this end, the Dutch government will allocate \$153 million to stimulate the use of renewable energy sources.

The Dutch Electricity Act also provides a framework for greater efficiency in the Dutch energy sector through "planned" competition. First, the Dutch government wants to guarantee tariff transparency through the establishment of an independent organization, Dienst Uitvoering en Toezicht Electriciteitswet (Oversight Agency for Electricity Bill), which functions as a watchdog and antitrust organization. Second, it has placed the national grid under centralized control of TenNet, a company that is owned by the Dutch State. The local distribution grids are still largely owned by local distributors.

Electricity production in the Netherlands has traditionally been dominated by four major power producing companies. In 1999, these four producers accounted for a combined output of 53 billion KWh. In addition, 30 billion KWh was produced by large industrial users by means of cogeneration. Domestic power production is supplemented by imports from Belgium, France, Germany and Norway making a total annual production of 101 billion KWh. Recent surveys indicate that further penetration of cogeneration, growing imports of electricity are expected to reduce the share of the four major domestic power suppliers.

The Dutch electricity sector has been struggling with excess capacity for some time. Stronger than anticipated penetration of industrial cogeneration and a take-off obligation by established producers of excess output from industrial consumers has faced the electricity generating sector with a lot of idle capacity. Since the liberalization of the Dutch energy sector took effect on January 1, 1998, three of the four major power production companies have been taken over by foreign companies. UNA was acquired by the U.S. energy company Reliant, EZH by German Preussen-Elektra and EPON by the Belgian energy conglomerate Electrabel. EPZ remains the only large power producer still without a foreign partner.

The distribution of electricity is carried out by large and small regional energy distributors. These companies distribute one or more energy products (electricity, gas and heat) and often operate television, radio, telephone cable networks and supply water. Realizing that, after the liberalization of the European Union energy market, their size was too small to play a significant role as buyer of energy products, these companies started to join forces by merging into larger energy combinations. This was done both on local and international scale. Several of these distributors have been taken over by other European energy companies.

It has been estimated that by the year 2006, foreign suppliers will cover over 20 percent of Dutch domestic demand for electricity. Half of these foreign power suppliers will come from the European Union. These statistics place the Dutch considerably ahead of the requirements under the European Union Directive for liberalization and bring overall savings to \$40 billion a year. The plan will allow large companies to negotiate with a variety of producers for the best deal.

This will force national monopolies to separate their generation, transmission and distribution activities and provide a clearer picture of their costs and prices, therefore allowing new entrants into their markets and spurring competition.

The electricity trade in the Netherlands takes place via the Amsterdam Power Exchange (APX). It was founded as a result of the on-going liberalization of the European energy market on May 25, 1999. This power exchange is the first electronic energy trading platform in continental Europe. The electricity spot market enables producers, distributors, traders, brokers and industrial consumers to buy and sell electricity on a day-ahead basis. The total trading volume of the Amsterdam Power Exchange equals 8 – 10 percent of Dutch energy consumption.

The power trade market in the Netherlands is also accessible to foreign companies. Companies which plan to trade power on the APX need to register as a participant. Participating companies of the Day-Ahead Market include firms from Belgium, Finland, France, Germany, Norway, Spain, Sweden, Switzerland, the United Kingdom and the United States. Most of these foreign companies have opened an office in the Netherlands

while a few acquired a Dutch power producer or distributor. The United States is represented by four companies on the Dutch electricity market.

Currently, two percent of Dutch energy consumption is met by renewable energy sources. In the Energy Bill of 1996, the Dutch Ministry of Economic Affairs projects this percentage to grow to 10 percent by the year 2020. Wind power, biomass and solar energy have been targeted to become the main sources of renewable energy in the Netherlands. In the renewable energy equipment sector, U.S. manufacturers of solar and wind energy equipment face significant competition from Dutch and other European suppliers.

### 3. The Dutch Oil and Gas Market

The Dutch are among Europe's largest producers and exporters of natural gas. Dutch natural gas reserves are one of the largest in Western Europe. In the 1960's, deposits of natural gas were discovered in the "Groningen" gasfield near a small town called Slochteren.

The discovery of this field, the largest in Western Europe, gave the Netherlands a long-term and domestic source of energy with a reserve of 1,850 billion cubic meters as of January 1, 1999. This has also made the Dutch, exporters of approximately half of their supply, one of Europe's largest providers of natural gas.

In the Netherlands, distribution and sales of natural gas is coordinated by N.V. Nederlandse Gasunie. Exxon and Shell each hold a 25 percent stake in N.V. Nederlandse Gasunie. Other shareholders are Energy Beheer Nederland B.V. (40 percent) and the Dutch state with 10 percent.

In the year 2001, N.V. Nederlandse Gasunie sold 80.7 billion cubic meters of natural gas of which 38.5 billion cubic meters went to the domestic market and 42.2 billion cubic meters were exported to Germany, Belgium, France, Italy, Switzerland and the United Kingdom.

In accordance with the European Gas Directives, the Dutch Gas Act (Gaswet) provides regulations and a time frame for the liberalization of the Dutch gas market. On January 1, 2000, large clients, those using more than 10 billion cubic meters of gas annually, became free in their choice of gas suppliers. Consumers of more than 170,000 cubic meters have been free in their choice from January 1, 2002 and the remaining, including households, by the year 2004. By 2004, the entire Dutch market will be completely liberalized. As a result of the liberalization, N.V. Nederlandse Gasunie expects to lose 33 percent of its share of the large users market. Within two years, they expect to supply only one-third of the domestic large users. These users include major industries and the electric utilities. At the moment, Dutch industry and the electric utilities can already buy cheaper British gas. N.V. Nederlandse Gasunie hopes to compensate the loss of its market share by increasing its export sales.

Crude oil production in the Netherlands is insignificant if compared to other oil producing countries in the European Union. In 1999, total crude oil production in the Netherlands amounted to 1.8 million cubic meters, coming mainly from a large number of predominantly small offshore deposits (1.17 million cubic meters).

Dutch production of crude oil is concentrated on a number of relatively small oil deposits on the Dutch part of the North Sea's Continental Shelf. The total area of the Netherlands' sector of the Continental Shelf covers 56,814 square kilometers in the North Sea.

On January 1, 2000, exploration or production licenses have been granted for a total area of 27,492 square meters. This equals 48 percent of the area available. At present, there are more than 100 production facilities on the Dutch Continental Shelf ranging from simple sub-sea facilities to large and complex production installations. Since the beginning of 1970's, an estimated \$450 million per year has been invested in the Dutch oil and gas exploration industry. A major part of the upstream industry consists of small and medium-sized companies across the spectrum of petroleum-based activities. About 70 percent of the business of the Dutch oil and gas equipment suppliers is generated through exports. Norway, the United Kingdom and other North Sea countries are the most important export markets. American high-tech oil and gas equipment suppliers are able to get a share of these markets by working with reputable Dutch agents and distributors.

More information can be obtained from:

Abraham J. Groen  
U.S. Commercial Service  
Embassy of the United States of America  
Lange Voorhout 102  
2514 EJ The Hague, The Netherlands  
Telephone 31-70-3109421 Fax 31-70-3632985  
E-mail: Bram.Groen@mail.doc.gov  
[www.buyusa.nl](http://www.buyusa.nl)